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R. Alan Burnett
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER	
LIU, LI	
ART UNIT	**PAPER NUMBER**
2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

5F

Office Action Summary	Application No.	Applicant(s)
	10/606,323	MACIOCCO ET AL.
	Examiner	Art Unit
	Li Liu	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-20 and 22-30* is/are rejected.

7)☒ Claim(s) *7 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/13,12/08,12/22, 2006*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 14 and 25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 8, 9, 11-20 and 22-30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozugur et al (US 2003/0189933).

1). With regard to claim 1, Ozugur et al disclose a method for establishing a coarse-grained reservation of a lightpath traversing a plurality of lightpath segments coupled between nodes in an optical switched network (Figure 1 and Figure 4), comprising:

passing a resource reservation request containing a generalized multi-protocol label-switching (GMPLS)-based label to each of the nodes traversed by the lightpath (Figure 3, Figure 4A and Figure 6, [0013], [0046], Figure 6 displayed how the request is established [0063]-0068], the signaling for setting up can be done using Label Distribution protocols (LDPs) or Resource Reservation Protocols (RSVPs)),

the GMPLS-based label identifying a lightpath segment (In Figure 1, GMPLS Label X identifies lightpath between Edge node 104 and Switching node A, GMPLS Label Y identifies lightpath between Switching node A and Switching node B etc.) to which each node is coupled ([0007], [0011], [0013] and [0014], the signaling for setting up can be done using Label Distribution protocols (LDPs) or Resource Reservation Protocols (RSVPs), Figure 6 shows the segment reservation); and

reserving each of the of lightpath segments along the lightpath for a scheduled timeframe (Figure 6, [0046], [0063]-[0068], and Ozugur et al also teach the time slot-based OBS in [0069]) by updating a reservation table maintained in each nodes with a respective lightpath segment reservation (Figure 3, the Routing table and Wavelength Allocation Table and Regenerator Allocation Table are used by the GMRE to select fiber link for the different hops [0044]; Figure 6, OBS nodes may remove the WAVELENGTH_SET object and add new WAVELENGTH_SET objects according to their own restrictions prior to forwarding the Path message to the next hop), wherein each lightpath segment reservation references its corresponding lightpath segment using the **data** contained in the GMPLS-based label ([0013] and [0014], Figure 1 and Figure 6, GMPLS Label X identifies lightpath between Edge node 104 and Switching node A, GMPLS Label Y identifies lightpath between Switching node A and Switching node B etc, Figure 6 also shows the segment reservation).

But, Ozugur et al does not expressly disclose that the **data** is the segment ID field, and updating a **segment ID field** of the GMPLS-based label at each of the nodes to identify one of the plurality of lightpath segment to which each node is coupled.

As discloses by the applicant, the segment ID field represents a specific wavelength and a fiber cable (pages 33-34, [00106]). The applicant uses Input Wavelength field, Segment ID field and Channel Spacing Field to identify a specific lightpath segment to which each node is coupled.

However, Ozugur et al teaches that the GMRE selects fiber link for the different hops [0044]; the GMPLS architecture allows an upstream node to suggest a Label Set within an object referred to as Label_Set. When an edge OBS node receives a Label request from an ingress edge router, the edge OBS node inserts a WAVELENGTH_SET object into the Path message to define the SWG before forwarding it to the downstream OBS node [0046]. On the reception of a Path message, the receiving OBS node will restrict its choice of wavelengths to those that are in the SWG. OBS nodes may remove the WAVELENGTH_SET object and add new WAVELENGTH_SET objects according to their own restrictions prior to forwarding the Path message to the next hop.

Since all available wavelengths are listed in the WAVELENGTH_SET object and the specific segment (fiber link and wavelength) is identified, the Path message with WAVELENGTH_SET objects performs the same function as applicant's fields of Input Wavelength, Segment ID and Channel Spacing: identify the lightpath segment. That is, the teaching of the reference is functionally equivalent to the claimed limitation.

2) With regard to claim 2, Ozugur et al disclose all of the subject matter as applied to claim 1 above, and Ozugur et al further disclose wherein the optical switched

network comprises a photonic burst switched (PBS) network (Figure 1, [0007], PBS is a kind of OBS).

3) With regard to claim 3, Ozugur et al disclose all of the subject matter as applied to claims 1 and 2 above, and Ozugur et al further disclose wherein the optical burst switched network comprises a wavelength-division multiplexed (WDM) PBS network (Figure 3 shows WDM link, [0045]).

4) With regard to claim 4, Ozugur et al disclose all of the subject matter as applied to claim 1 above, and Ozugur et al further disclose wherein the GMPLS-based label includes an input fiber port field identifying an input fiber port of a node at a receiving end of the lightpath segment identified by the GMPLS-based label ([0044], a GMPLS Routing Engine "GMRE" is used to selects fiber link for different hops, it is obvious that an input fiber port field is in the label, and [0046] a Label_Set object is used to set up the path).

5) With regard to claim 5, Ozugur et al disclose all of the subject matter as applied to claim 1 above, and Ozugur et al further disclose wherein the GMPLS-based label includes at least one field identifying an input wavelength employed for carrying signals over the lightpath segment identified by the GMPLS-based label (Figure 5, WAVELENGTH_SET object).

6) With regard to claim 6, Ozugur et al disclose all of the subject matter as applied to claim 1 above, and Ozugur et al further disclose wherein the input wavelength is defined by a value stored in the IEEE standard 754 single precision floating point format (Figure 5, the WAVELENGTH_SET is 32-bit word).

7) With regard to claim 8, Ozugur et al disclose all of the subject matter as applied to claim 1 above, and Ozugur et al further disclose wherein the method is performed by:

selecting a selected lightpath route (FIG. 4A, [0043]-[0046]) comprising a plurality of lightpath segments (408a, 408b and 408c in FIG. 4A), coupled between the plurality of nodes (402, 404A, 404B and 406 in FIG. 4A), said lightpath route beginning with a source node (402 in FIG. 4A) and ending with a destination node (406 in FIG. 4A) and including at least one switching node (404A and 404B in FIG. 4A) between the source and destination nodes;

traversing lightpath segments on the selected lightpath route ([0044], 412b-412a -412a are selected in Fig. 4A);

generating a GMPLS-based label for each lightpath segment ([0046]); and

employing that GMPLS-based label for a corresponding lightpath segment to reserve that lightpath segment for the scheduled timeframe ([0044], a GMPLS Routing Engine "GMRE" is used to selects fiber link, [0046] a Label_Set object is used to set up the path).

8) With regard to claim 9, Ozugur et al disclose all of the subject matter as applied to claims 1 and 8 above, and Ozugur et al further disclose wherein the method includes:

determining, at each node along the selected lightpath route, whether the lightpath segment received at that node and a corresponding network resource are available for use during the scheduled timeframe ([0025], GMRE selects the fiber link,

[0064] and [0069], and available wavelengths are defined in WAVELENGTH_SET objects; Figure 6 shows the procedure of request); and

reserving a network resource for a given lightpath segment for the scheduled timeframe if it is available (FIG. 6 describes the setup procedure for establishing the network), otherwise providing indicia to the source node to indicate the network resource for the given lightpath segment is unavailable for the scheduled timeframe (Figure 6, A RESV message will be send to source node for the reservation, and PathErr or ResvErr message are used for unavailable node [0050] and [0063]).

9) With regard to claim 11, Ozugur et al disclose all of the subject matter as applied to claims 1 and 8 above, and Ozugur et al further disclose wherein the method includes:

performing a forward traversal of the selected lightpath route from the source node to the destination node (Figure 6, Edge Router 602 issues a Generalized Label Request and a Path message to Node 1, then similar requests are passed from Node 1 to Node 2 and Node 3 and finally to Egress Router 624);

determining, at each node along the forward traversal, whether the lightpath segment received at that node is available for use during the scheduled timeframe (GMRE selects the fiber link, Figure 6 shows the request, and a RESV is sent back for completion of the reservation); and

temporarily reserving a network resource for a given lightpath segment for the scheduled timeframe with a soft reservation if it is determined to be available (Figure 6, Request starts from Edge Router 602 and end at Egress Edge Router 624, and RESV

is sent back from 624 to 602, then "Finally, the path and SWGs at each hop are established for the LSP, as indicated by a path designated by the reference numeral 640" [0068], and Ozugur disclose some control algorithms, such as URMP etc, for the reservation and switching, so it can be interpreted as the soft reservation);

determining if all of the lightpath segments along the selected lightpath route and network resources are available for use during the scheduled timeframe (GMRE selects the fiber link, Figure 6 shows the request, and a RESV is sent back for completion of the reservation); and

committing the soft reservations for each lightpath segment if it is determined that all of the lightpath segment network resources are available for use during the scheduled timeframe (Figure 6 shows the request, and a RESV is sent back for completion of the reservation, and "the path and SWGs at each hop are established for the LSP, as indicated by a path designated by the reference numeral 640" [0068]).

10) With regard to claim 12, Ozugur et al disclose all of the subject matter as applied to claims 1, 8 and 11 above, and Ozugur et al further disclose wherein the soft reservation are committed by:

performing a reverse traversal of the selected lightpath route from the destination node back to the source node (Figure 6 illustrates the set-up procedure n an OBS network, and a RESV 628 is sent back from Egress Edge Router 624 to Node 3, and then RESV 630 from Node 3 to Node 2, and finally RESV 638 from Node 1 to Ingress Edge Router 602);

setting the soft reservation corresponding to a given lightpath segment to a hard reservation as the node corresponding to that lightpath segment is encountered during the reverse traversal (Ozugur disclose some control algorithms, such as URMP [0074] etc, for the reservation and switching, so it can be interpreted as the soft reservation. During the RESV is sent back from Egress Edge 624 to the Ingress Edge 602, the path at each hop is established for the LSP, so to set the soft reservation to a hard reservation).

11) With regard to claim 13, Ozugur et al disclose all of the subject matter as applied to claim 1 above, and Ozugur et al further disclose wherein data corresponding to the reservation of the lightpath is stored in a reservation lookup table (Routing Table in FIG. 3), the method further comprising:

sending a control burst, during a given timeframe, across the optical switched network from a source node to a destination node (Figure 2, a control packet 202 is transmitted via separate sets of channels 208 from edge node 210 to destination node); and

looking up, in the reservation lookup table, appropriate lightpath segments via which the control burst is to be routed to traverse a lightpath linking the source and destination nodes based on lightpath segment and resource reservations corresponding to the given timeframe (FIG. 3, [0011]-[0013], Control Channel Group (CCG) links are used for routing the control burst, a GMPLS control plane provide network planners, and uses labels associated with burst packet).

12) With regard to claim 14, Ozugur et al disclose a switching apparatus (Figure 3) for use in an optical switched network, comprising:

optical switch fabric (Optical Switch 302 in Figure 3), having at least one input fiber port (Data Channel Group in Figure 3) and at least one output fiber port (Data Channel Group at DataOut in Figure 3); and

a control unit (304 in Figure 3), operatively coupled to control the optical switch fabric, including at least one processor (Control Packet Processing in Figure 1) and a storage device operatively coupled to said at least one processor containing machine-executable instructions, which when executed by said at least one processor perform operations (Figure 3, Ozugur et al disclose that a switch control unit and Routing Table and Wavelength Allocation Table et al are used for setting up a path, Figure 3, therefore a storage device must be used to store the control instructions and tables et al), including:

receiving a resource reservation request from a first node (402 in Figure 4A or 602 in Figure 6, [0043]), said resource reservation request including a first generalized multi-protocol label-switching (GMPLS)-based label identifying a first lightpath segment between the first node and the switching apparatus (GMPLS Label X *etc* in Figure 1), which comprises a second node (404A in Figure 4A or 606 in Figure 6); and

scheduling a coarse-grained time-reserved use of the first lightpath segment for subsequent transmission of data via the first lightpath segment (408a in Figure 4A or 602 to 606 in Figure 6, [0043]).

But, Ozugur et al does not expressly disclose wherein the GMPLS-based label includes a segment ID field to identify the first lightpath segment.

As discloses by the applicant, the segment ID field represents a specific wavelength and a fiber cable (pages 33-34, [00106]). The applicant uses Input Wavelength field, Segment ID field and Channel Spacing Field to identify a specific lightpath segment.

However, Ozugur et al teaches that the GMRE selects fiber link for the different hops [0044]; the GMPLS architecture allows an upstream node to suggest a Label Set within an object referred to as Label_Set. When an edge OBS node receives a Label request from an ingress edge router, the edge OBS node inserts a WAVELENGTH_SET object into the Path message to define the SWG before forwarding it to the downstream OBS node [0046]. On the reception of a Path message, the receiving OBS node will restrict its choice of wavelengths to those that are in the SWG. OBS nodes may remove the WAVELENGTH_SET object and add new WAVELENGTH_SET objects according to their own restrictions prior to forwarding the Path message to the next hop.

Since all available wavelengths are listed in the WAVELENGTH_SET object and the specific segment (fiber link and wavelength) is identified, the Path message with WAVELENGTH_SET objects performs the same function as applicant's fields of Input Wavelength, Segment ID and Channel Spacing: identify the lightpath segment. That is, the teaching of the reference is functionally equivalent to the claimed limitation.

13) With regard to claim 15, Ozugur et al disclose all of the subject matter as applied to claim 14 above, and Ozugur et al further disclose wherein execution of the instructions further performs the operations of:

creating a second GMPLS-based label identifying a second lightpath segment (408b in Figure 4A, [0043], or from 606 to 608 in Figure 6) between the switching apparatus and a third node;

replacing the first GMPLS-based label in the resource reservation request (Label_Set changed from one node to another node in Figure 6); and

forwarding the resource reservation request to the third node (Figure 6, Request is passed from one node to another node).

14) With regard to claim 16, Ozugur et al disclose all of the subject matter as applied to claim 14 above, and Ozugur et al further disclose wherein the optical switched network comprises a photonic burst switched (PBS) network ([0007], PBS is a kind of OBS).

15) With regard to claim 17, Ozugur et al disclose all of the subject matter as applied to claims 14 and 16 above, and Ozugur et al further disclose wherein the optical switched network comprises a wavelength-division multiplexed (WDM) PBS network (WDM Link in Figure 3); and the optical switching fabric provides switching of optical signals comprising different wavelengths carried over common fibers that may be respectively coupled to said at least one input fiber port and said at least one output fiber port (Figure 3 and Figure 4B, each fiber is wavelength multiplexed).

16) With regard to claim 18, Ozugur et al disclose all of the subject matter as applied to claim 14 above, and Ozugur et al further disclose wherein the first GMPLS-based label includes an input fiber port field identifying an input fiber port of the switching apparatus corresponding to an end of the first lightpath segment ([0044], a GMPLS Routing Engine "GMRE" is used to selects fiber link for different hops, it is obvious that an input fiber port field is in the label, and [0046] a Label_Set object is used to set up the path).

17) With regard to claim 19, Ozugur et al disclose all of the subject matter as applied to claim 14 above, and Ozugur et al further disclose wherein the first GMPLS-based label includes at least one field identifying a wavelength employed for carrying signals over the first lightpath segment (Figure 5, WAVELENGTH_SET object).

18) With regard to claim 20, Ozugur et al disclose all of the subject matter as applied to claims 14 and 19 above, and Ozugur et al further disclose wherein the input wavelength is defined by the IEEE standard 754 single precision floating point format (Figure 5, the WAVELENGTH_SET is 32-bit word).

19) With regard to claim 22, Ozugur et al disclose all of the subject matter as applied to claim 14 above, and Ozugur et al further disclose wherein execution of the instructions further performs the operation of storing a time-reserved use of the first lightpath segment that is scheduled in a reservation table maintained by the switching apparatus ([0069], a slot-based OBS is disclosed by Ozugur, and then a SLOT_SET is used in the label, so it is time-reserved use of the lightpath).

20) With regard to claim 23, Ozugur et al disclose all of the subject matter as applied to claim 14 above, and Ozugur et al further disclose wherein said at least one processor includes a network processor ([0012], a GMPLS control plane provides network planners).

21) With regard to claim 24, Ozugur et al disclose all of the subject matter as applied to claims 14 and 23 above, and Ozugur et al further disclose wherein said at least one processor further includes a control processor (304 in Figure 3, a control processor must be in the control unit).

22) With regard to claim 25, Ozugur et al disclose a tangible machine-recordable medium to provide instructions (Ozugur et al disclose that a switch control unit and Routing Table and Wavelength Allocation Table et al are used for setting up a path, Figure 3, therefore a tangible machine-recordable medium must be used to store the control instructions and tables et al), which when executed by a processor in a switching apparatus comprising a first node in an optical switched network, cause the switching node to perform operations comprising:

receiving a resource reservation request from a second node (608 Node 2 receives request from Node 1 in Figure 6), said resource reservation request including a first generalized multi-protocol label-switching (GMPLS)-based label identifying a first lightpath segment (GMPLS Label Y *etc* in Figure 1 or Generalized Label Request in Figure 6) between the second node and the switching apparatus; and

scheduling a coarse-grained time-reserved use of the first lightpath segment (412a in Figure 4B, [0043]) for subsequent transmission of data via the first lightpath segment.

But, Ozugur et al does not expressly disclose wherein the GMPLS-based label includes a segment ID field to identify the first lightpath segment.

As discloses by the applicant, the segment ID field represents a specific wavelength and a fiber cable (pages 33-34, [00106]). The applicant uses Input Wavelength field, Segment ID field and Channel Spacing Field to identify a specific lightpath segment.

However, Ozugur et al teaches that the GMRE selects fiber link for the different hops [0044]; the GMPLS architecture allows an upstream node to suggest a Label Set within an object referred to as Label_Set. When an edge OBS node receives a Label request from an ingress edge router, the edge OBS node inserts a WAVELENGTH_SET object into the Path message to define the SWG before forwarding it to the downstream OBS node [0046]. On the reception of a Path message, the receiving OBS node will restrict its choice of wavelengths to those that are in the SWG. OBS nodes may remove the WAVELENGTH_SET object and add new WAVELENGTH_SET objects according to their own restrictions prior to forwarding the Path message to the next hop.

Since all available wavelengths are listed in the WAVELENGTH_SET object and the specific segment (fiber link and wavelength) is identified, the Path message with WAVELENGTH_SET objects performs the same function as applicant's fields of Input

Wavelength, Segment ID and Channel Spacing: identify the lightpath segment. That is, the teaching of the reference is functionally equivalent to the claimed limitation.

23) With regard to claim 26, Ozugur et al disclose all of the subject matter as applied to claim 25 above, and Ozugur et al further disclose wherein execution of the instructions further performs the operations of:

creating a second GMPLS-based label identifying a second lightpath segment (412a in Figure 4A, or from 608 Node 2 to 614 Node 3) between the switching apparatus and a third node;

replacing the first GMPLS-based label in the resource reservation request (Label_Set changed from one node to another node in Figure 6); and

forwarding the resource reservation request to the third node (Figure 6, Request is passed from one node to another node).

24) With regard to claim 27, Ozugur et al disclose all of the subject matter as applied to claim 25 above, and Ozugur et al further discloses wherein the optical switched network comprise a wavelength-division multiplexed (WDM) photonic burst switched (PBS) network (WDM Link in Figure 3, [0007], PBS is a kind of OBS).

25) With regard to claim 28, Ozugur et al disclose all of the subject matter as applied to claim 25 above, and Ozugur et al further discloses wherein the first GMPLS-based label includes an input fiber port field identifying an input fiber port of the switching apparatus corresponding to an end of the first lightpath segment ([0044], a GMPLS Routing Engine "GMRE" is used to selects fiber link for different hops, it is

obvious that an input fiber port field is in the label, and [0046] a Label_Set object is used to set up the path).

26) With regard to claim 29, Ozugur et al disclose all of the subject matter as applied to claim 25 above, and Ozugur et al further discloses wherein the first GMPLS-based label includes at least one field identifying a wavelength employed for carrying signals over the first lightpath segment (Figure 5, WAVELENGTH_SET object).

27) With regard to claim 30, Ozugur et al disclose all of the subject matter as applied to claim 25 above, and Ozugur et al further discloses wherein execution of the instructions further performs the operation of storing a time-reserved use of the first lightpath segment that is scheduled in a reservation table maintained by the switching apparatus ([0069], a slot-based OBS is disclosed by Ozugur, and then a SLOT_SET is used in the label, so it is time-reserved use of the lightpath).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozugur et al (US 2003/0189933) as applied to claims 1 and 8 above, and in view of Comellas et al (Comellas et al: "Integrated IP/WDM Routing in GMPLS-Based Optical Networks", *IEEE Network March/April 2003, page 22-27*).

Ozugur et al disclose all of the subject matter as in claims 1 and 8 above, and Ozugur et al also teach: determining, at each node along the selected lightpath route, whether the lightpath segment received at that node is available for use during the scheduled timeframe ([0025], GMRE selects the fiber link, [0064] and [0069], FIG. 6 describes the setup procedure for establishing the network); and reserving a given lightpath segment for the scheduled timeframe if it is available (Figure 4A and Figure 6,

[0043]), otherwise providing indicia to the source node to indicate the given lightpath segment is unavailable for the scheduled timeframe (Figure 6, A RESV message will be send to source node for the reservation, and PathErr message is used for unavailable node [0050]).

But Ozugur et al do not disclose wherein the method further comprising: selecting a second selected lightpath route.

However, Comellas et al teach a method to select a second selected lightpath route (Figure 1, page 23 IP/WDM Grooming Example Connection).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method taught by Comellas et al to the method of Ozugur et al so that the network is more flexible, and any fault or contention can be quickly resolved.

Allowable Subject Matter

5. Claims 7 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Qiao (US 6,956,868) discloses a labeled optical burst switching for IP-over-WDM integration.

Qiao (Qiao: "Labeled Optical Burst Switching for IP-over-WDM Integration", IEEE Communications Magazine, September 20, 2000, page 104-114).

Liu (US 2002/0154360) disclose a discrete time sequence model for slotted switching of OBS.

Chaskar et al (US 6,898,205) discloses a system and method for routing of Internet Protocol (IP) traffic using optical burst switching.

Banerjee et al (Banerjee et al: "Generalized Multiprotocol Label Switching: An Overview of Routing and Management Enhancements", IEEE Communications Magazine January, 2001, page 144-1150) discloses a generalized multiprotocol label switching

Kim et al (Kim et al: "Discrete Event Simulation of the DiffServ-over-MPLS with NIST GMPLS Lightwave Agile Switching Simulator (GLASS)", Joint Conference of Communication and Information-2002, Jeju, Korea) disclose a GMPLS-based WDM optical network.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li Liu whose telephone number is (571)270-1084. The examiner can normally be reached on Mon-Fri, 8:00 am - 5:30 pm, alternating Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Li Liu
January 8, 2007

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER